

SEQUENCE LISTING

<110> Friddle, Carl Johan
Hilbun, Erin
Gerhardt, Brenda
Mathur, Brian
Walke, D. Wade
Turner, C. Alexander Jr.

<120> Novel Human 7TM Proteins and Polynucleotides Encoding the Same

<130> LEX-0252-USA

<150> US 60/239,592

<151> 2000-10-11

<160> 20

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1017

<212> DNA

<213> homo sapiens

<400> 1

```
atgaaaagtc aaattgaaaa aagtgactta aaatatagag ccatttttatt gcaaaaagtc 60
acaaggatgt tctgtctttt ctgggtcctt ctcttggtcc tttctagact tttggtagtc 120
atgggtcgag gaaacagcac tgaagtgact gaattccatc ttctgggatt tgggtgtccaa 180
cacgaatttc agcatgtcct tttcattgta cttctcttta tctatgtgac ctccctgata 240
ggaaatattg gaatgatctt actcatcaag accgattcca gacttcaaac acccatgtac 300
ttttttccac aacatttggc ttttgttgat atctgttata cttctgctat cactcccaag 360
atgctccaaa gcttcacaga agaaaataat ttgataacat ttcggggctg tgtgatacaa 420
ttcttagttt atgcaacatt tgcaaccagt gactgttacc tcctagctat tatggcaatg 480
gattgttatg ttgccatctg taagccctt cgctatccca tgatcatgtc ccaaacagtc 540
tacatccaac tcgtagctgg ctcatatatt ataggctcaa taaatgcctc tgtacataca 600
ggttttacat ttctactgtc cttctgcaag tctaataaaa tcaatcactt tttctgtgat 660
gggtctccca ttcttgccct ttcattgtcc aacattgaca tcaacatcat tctagatgtt 720
gtctttgtgg gatttgactt gatgttcaat gagtttggtc tcatcttttc ctacatctac 780
attatgggtc ccactctgaa gatgtcttct actgctggga ggaaaaaatc cttctccaca 840
tgtgcctccc acctgacagc agtaaccatt ttctatggga cactctctta catgtactta 900
cagcctcagt ctaataattc tcaggagaat atgaaagtag cctctatatt ttatggcact 960
gttattccca tgttgaatcc tttaatctat agcttgagaa ataaggaagg aaaataa 1017
```

<210> 2

<211> 338

<212> PRT

<213> homo sapiens

<400> 2

```
Met Lys Ser Gln Ile Glu Lys Ser Asp Leu Lys Tyr Arg Ala Ile Leu
1           5           10          15
Leu Gln Lys Val Thr Arg Met Phe Leu Leu Phe Trp Val Leu Leu Leu
20           25           30
```

Val	Leu	Ser	Arg	Leu	Leu	Val	Val	Met	Gly	Arg	Gly	Asn	Ser	Thr	Glu
	35						40					45			
Val	Thr	Glu	Phe	His	Leu	Leu	Gly	Phe	Gly	Val	Gln	His	Glu	Phe	Gln
	50					55					60				
His	Val	Leu	Phe	Ile	Val	Leu	Leu	Leu	Ile	Tyr	Val	Thr	Ser	Leu	Ile
65					70					75					80
Gly	Asn	Ile	Gly	Met	Ile	Leu	Leu	Ile	Lys	Thr	Asp	Ser	Arg	Leu	Gln
				85					90					95	
Thr	Pro	Met	Tyr	Phe	Phe	Pro	Gln	His	Leu	Ala	Phe	Val	Asp	Ile	Cys
			100					105					110		
Tyr	Thr	Ser	Ala	Ile	Thr	Pro	Lys	Met	Leu	Gln	Ser	Phe	Thr	Glu	Glu
			115				120					125			
Asn	Asn	Leu	Ile	Thr	Phe	Arg	Gly	Cys	Val	Ile	Gln	Phe	Leu	Val	Tyr
	130					135					140				
Ala	Thr	Phe	Ala	Thr	Ser	Asp	Cys	Tyr	Leu	Leu	Ala	Ile	Met	Ala	Met
145					150					155					160
Asp	Cys	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu	Arg	Tyr	Pro	Met	Ile	Met
				165					170					175	
Ser	Gln	Thr	Val	Tyr	Ile	Gln	Leu	Val	Ala	Gly	Ser	Tyr	Ile	Ile	Gly
			180					185					190		
Ser	Ile	Asn	Ala	Ser	Val	His	Thr	Gly	Phe	Thr	Phe	Ser	Leu	Ser	Phe
		195				200						205			
Cys	Lys	Ser	Asn	Lys	Ile	Asn	His	Phe	Phe	Cys	Asp	Gly	Leu	Pro	Ile
	210					215					220				
Leu	Ala	Leu	Ser	Cys	Ser	Asn	Ile	Asp	Ile	Asn	Ile	Ile	Leu	Asp	Val
225					230					235					240
Val	Phe	Val	Gly	Phe	Asp	Leu	Met	Phe	Thr	Glu	Leu	Val	Ile	Ile	Phe
				245					250					255	
Ser	Tyr	Ile	Tyr	Ile	Met	Val	Thr	Ile	Leu	Lys	Met	Ser	Ser	Thr	Ala
			260					265						270	
Gly	Arg	Lys	Lys	Ser	Phe	Ser	Thr	Cys	Ala	Ser	His	Leu	Thr	Ala	Val
		275					280					285			
Thr	Ile	Phe	Tyr	Gly	Thr	Leu	Ser	Tyr	Met	Tyr	Leu	Gln	Pro	Gln	Ser
	290					295					300				
Asn	Asn	Ser	Gln	Glu	Asn	Met	Lys	Val	Ala	Ser	Ile	Phe	Tyr	Gly	Thr
305					310					315					320
Val	Ile	Pro	Met	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu
				325					330					335	
Gly	Lys														

<210> 3
 <211> 897
 <212> DNA
 <213> homo sapiens

<400> 3
 atgggtcgag gaaacagcac tgaagtgact gaattccatc ttctgggatt tgggtgtccaa 60
 cacgaatttc agcatgtcct tttcattgta cttcttctta tctatgtgac ctccctgata 120
 ggaaatattg gaatgatctt actcatcaag accgattcca gacttcaaac acccatgtac 180
 ttttttccac aacatttggc ttttgttgat atctgttata cttctgctat cactcccaag 240
 atgctccaaa gcttcacaga agaaaataat ttgataacat ttcggggctg tgtgatacaa 300
 ttcttagttt atgcaacatt tgcaaccagt gactgttacc tctagctat tatggcaatg 360
 gattgttatg ttgccatctg taagccctt cgctatccca tgatcatgtc ccaaacagtc 420
 tacatccaac tcgtagctgg ctcatatatt ataggctcaa taaatgcctc tgtacataca 480

gggttttacat ttctactgtc cttctgcaag tctaataaaa tcaatcactt tttctgtgat 540
 ggtctcccaa ttcttgccct ttcattgtcc aacattgaca tcaacatcat tctagatgtt 600
 gtctttgtgg gatttgactt gatgttcaact gagttgggtca tcatcttttc ctacatctac 660
 attatgggtca ccaccttgaa gatgtcttct actgctggga ggaaaaaatc cttctccaca 720
 tgtgctccc acctgacagc agtaaccatt ttctatggga cactctctta catgtactta 780
 cagcctcagt ctaataattc tcaggagaa atgaaagtag cctctatatt ttatggcact 840
 gttattccca tgttgaatcc tttaatctat agcttgagaa ataaggaagg aaaataa 897

<210> 4
 <211> 298
 <212> PRT
 <213> homo sapiens

<400> 4
 Met Gly Arg Gly Asn Ser Thr Glu Val Thr Glu Phe His Leu Leu Gly
 1 5 10 15
 Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val Leu Leu
 20 25 30
 Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu
 35 40 45
 Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Pro Gln
 50 55 60
 His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
 65 70 75 80
 Met Leu Gln Ser Phe Thr Glu Glu Asn Asn Leu Ile Thr Phe Arg Gly
 85 90 95
 Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 100 105 110
 Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys
 115 120 125
 Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu
 130 135 140
 Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr
 145 150 155 160
 Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His
 165 170 175
 Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
 180 185 190
 Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met
 195 200 205
 Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr
 210 215 220
 Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
 225 230 235 240
 Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
 245 250 255
 Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
 260 265 270
 Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
 275 280 285
 Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
 290 295

<210> 5
 <211> 951

<212> DNA
<213> homo sapiens

<400> 5

```

atgttctgc ttttctgggt ccttctcttg gtcctttcta gacttttggt agtcatgggt 60
cgaggaaaca gcaactgaagt gactgaattc catcttctgg gatttggtgt ccaacacgaa 120
tttcagcatg tccttttcat tgtacttctt cttatctatg tgacctccct gataggaaat 180
attggaatga tcttactcat caagaccgat tccagacttc aaacacccat gtactttttt 240
ccacaacatt tggcttttgt tgatatctgt tatacttctg ctatcactcc caagatgctc 300
caaagcttca cagaagaaaa taatttgata acatttctgg gctgtgtgat acaattctta 360
gtttatgcaa catttgcaac cagtgaactg tacctcctag ctattatggc aatggattgt 420
tatgttgcca tctgtaagcc ccttcgctat cccatgatca tgtcccaaac agtctacatc 480
caactcgtag ctggctcata tattatagga tcaataaatg cctctgtaca tacagggtttt 540
acattttcac tgtccttctg caagtctaataaaaatcaatc actttttctg tgatgggtctc 600
ccaattcttg ccctttcatg ctccaacatt gacatcaaca tcattctaga tgttgtcttt 660
gtgggatttg acttgatggt cactgagttg gtcacatctt ttctctacat ctacattatg 720
gtcaccatcc tgaagatgtc ttctactgct gggaggaaaa aatccttctc cacatgtgcc 780
tcccacctga cagcagtaac cattttctat gggacactct cttacatgta cttacagcct 840
cagtctaata attctcagga gaatatgaaa gtagcctcta tattttatgg cactgttatt 900
cccatgttga atcctttaat ctatagcttg agaaataagg aaggaaaata a 951

```

<210> 6
<211> 316
<212> PRT
<213> homo sapiens

<400> 6

```

Met Phe Leu Leu Phe Trp Val Leu Leu Leu Val Leu Ser Arg Leu Leu
 1           5           10          15
Val Val Met Gly Arg Gly Asn Ser Thr Glu Val Thr Glu Phe His Leu
          20          25          30
Leu Gly Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val
          35          40          45
Leu Leu Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile
          50          55          60
Leu Leu Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe
65          70          75          80
Pro Gln His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr
          85          90          95
Pro Lys Met Leu Gln Ser Phe Thr Glu Asn Asn Leu Ile Thr Phe
          100         105         110
Arg Gly Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser
          115         120         125
Asp Cys Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile
          130         135         140
Cys Lys Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile
145         150         155         160
Gln Leu Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val
          165         170         175
His Thr Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile
          180         185         190
Asn His Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser
          195         200         205
Asn Ile Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp
210         215         220
Leu Met Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met

```

225		230		235		240
Val Thr Ile Leu Lys	Met Ser Ser Thr Ala Gly	Arg Lys Lys Ser Phe				
	245		250		255	
Ser Thr Cys Ala Ser	His Leu Thr Ala Val Thr	Ile Phe Tyr Gly Thr				
	260		265		270	
Leu Ser Tyr Met Tyr	Leu Gln Pro Gln Ser Asn	Asn Ser Gln Glu Asn				
	275		280		285	
Met Lys Val Ala Ser	Ile Phe Tyr Gly Thr Val	Ile Pro Met Leu Asn				
	290		295		300	
Pro Leu Ile Tyr Ser	Leu Arg Asn Lys Glu Gly	Lys				
305	310		315			

<210> 7
 <211> 2600
 <212> DNA
 <213> homo sapiens

<400> 7

aattatttct	tgttttctt	tg	tctccacta	cataatttct	gtaataagca	atagaaaatg	60
taaggccatt	tctcagacat	cc	cattatata	acagggttaa	tatacttgta	aagaatagca	120
cctagatgga	agttgcattt	ta	agaataact	agtacaaaga	cactttgaag	ccttcaaaaa	180
tatgtgaata	tgaacatatt	tt	gggaaatt	gctctccaat	taattctact	aatttcaaga	240
actagaaaga	gaaataaaat	aa	gtggctgt	gaataattat	gtttctaaaa	aggtacagaa	300
ttacatttta	acgttattta	ga	ataaatac	aaatacctgt	ttaatatagt	gaaaaaatgc	360
ttctctatgt	ttctaagaac	ca	cgcacatt	agaagtcagt	cttcttctaa	gaaaatcttc	420
ttcattttga	agataaatct	gt	ttcatctt	tcatctagta	actctctctt	tacttgatga	480
ttataaattt	tttttaattt	gg	aaataaca	ctattgtgag	tatttgtcat	gaaaagtcaa	540
attgaaaaaa	gtgacttaaa	at	atagagcc	attttattgc	aaaaagtcac	aaggatgttc	600
ctgcttttct	gggtccttct	ct	tggtcctt	tctagacttt	tggtagtcac	gggtcgagga	660
aacagcactg	aagtgcactga	att	ccatctt	ctgggatttg	gtgtccaaca	cgaatttcag	720
catgtccttt	tcattgtact	tct	tcttctac	tatgtgacct	ccctgatagg	aaatattgga	780
atgatcttac	tcatcaagac	cg	attccaga	cttcaaacac	ccatgtactt	ttttccacaa	840
catttggtct	ttgttgatat	ct	gttatact	tctgctatca	ctcccaagat	gctccaaagc	900
ttcacagaag	aaaataattt	ga	taacattt	cggggctgtg	tgatacaatt	cttagtttat	960
gcaacatttg	caaccagtga	ct	gttacctc	ctagctatta	tggcaatgga	ttgttatgtt	1020
gccatctgta	agcccccttg	ct	atcccatg	atcatgtccc	aaacagtcta	catccaaactc	1080
gtagctggct	catatattat	ag	gtcaata	aatgcctctg	tacatacagg	ttttacattt	1140
tactgtcct	tctgcaagtc	ta	ataaaatc	aatcactttt	tctgtgatgg	tctcccaatt	1200
cttgcccttt	catgctccaa	cat	tgacatc	aacatcattc	tagatgttgt	ctttgtggga	1260
tttgacttga	tgttcactga	gt	tggtcctc	atcttttctt	acatctacat	tatgggtcacc	1320
atcctgaaga	tgtcttctac	tg	ctgggagg	aaaaaatcct	tctccacatg	tgccctccac	1380
ctgacagcag	taaccatttt	ct	atggggaca	ctctcttaca	tgtacttaca	gcctcagtct	1440
aataattctc	aggagaatat	ga	agtagacc	tctatatttt	atggcactgt	tattcccatg	1500
ttgaatcctt	taatctatag	ct	tgagaaat	aaggaaggaa	aataagcttt	aaaagtgata	1560
ggaaaaaagt	tttgtttaagt	tag	acacagct	tggttaaaat	caacacaaca	aagcatccag	1620
cacagctaata	ctgccccaaat	tt	aaagtctt	taaaataggg	agcatgtagg	aaaatctcaa	1680
attaaccatc	taacatcaca	ct	tagagcaa	ttagaaaaaa	gaaataacta	aaatcagaac	1740
aaaactgaac	aaaattgaga	cc	caaaagtc	catacaaaga	atcaatgaaa	ccaaaacttg	1800
ttttttattt	tgaaataatc	aa	taagattg	gtaggcttct	atctagattc	acaagaaaaa	1860
aaaaaggaaa	gatccaaata	ag	cacaagca	gaaaggacaa	aggtgacatt	ataaacaatc	1920
ccacagaaat	acaaaagatc	ct	cagagact	attatgaaca	tcattttctat	gcaaaataaac	1980
tagaaaaatc	agaggaaata	ga	taaatcc	caggaacaca	caacctctca	agattttaatc	2040
aggaagaaat	tgaaaccttg	aa	tgaaccaa	tatcaagttc	tgaagtggaa	gctaagtgcc	2100
atccaaaaag	gggcccagac	aa	gacaaatt	tgcagtcaaa	ttctactaga	tgtaaaaaaga	2160
agagctaata	ccaatgctat	tg	aaactatt	tcaaaatatt	gaagaggagg	aactcttttg	2220

taacccattc tacaaagcca caattaccct gataccaaaa cttagcaacg aaaaaacaaa 2280
 aaaaaaata aaactgcagg caaatatccc tgatgaacat agatgcaaag ccaacagtga 2340
 aatactagca aatcgaattg aacagcacat caaaagttaa ttcaccatga tcaagtaggc 2400
 ttcattcttg ggatgcaagt ttgggtcaaa atatgcaaat tattaatatc gattcaccac 2460
 atcaatagta tttaaaacaa aaaccatatg atcatctcaa tagatgcagg aaaattcttc 2520
 aataaactcc tacatccctt tataataaaa accctcaaaa aactaggcat caaagcaacg 2580
 tatctcaaaa taagtgccat 2600

<210> 8
 <211> 924
 <212> DNA
 <213> homo sapiens

<400> 8
 atgaatcaca gcgttgtaac tgagttcatt attctggggc tcacaaaaaa gcctgaactc 60
 caggggaatta tcttctctt ttttctcatt gtctatcttg tggcttttct cggcaacatg 120
 ctcacatca ttgccaaaat ctatagcaac accttgcata cgcccatgta tgttttcctt 180
 ctgacactgg ctgttggtga catcatctgc acaacaagca tcataccgaa gatgctgggg 240
 accatgctaa catcagaaaa taccatttca tatgcaggct gcatgtccca gctcttcttg 300
 ttcacatggg ctctggggagc tgagatgggt ctcttcacca ccatggccta tgaccgctat 360
 gtgggccattt gtttccctct tcattacagt actattatga accaccatat gtgtgtagcc 420
 ttgctcagca tgggtcatggc tattgcagtc accaatctct ggggtgcacac agctcttctc 480
 atgaggttga ctttctgttg gccaaacacc attgaccact tcttctgtga gataccccc 540
 ttgctggctt tgcctgttag cctgtgaaga atcaatgagg tgatggtgta tgttgctgat 600
 attaccctgg ccatagggga ctttattctt acctgcatct cctatgggtt tatcattggt 660
 gctattctcc gtatccgcac agtagaaggc aagaggaagg ccttctcaac atgctcatct 720
 catctcacag tgggtgacct ttactattct cctgtaactc acacctatat ccgccctgct 780
 tccagctata catttgaaag agacaagggt gtagctgcac tctatactct tgtgactccc 840
 acattaaacc cgatgggtga cagcttccag aatagggaga tgcaggcagg aattaggaag 900
 gtgtttgcat ttctgaaaca ctg 924

<210> 9
 <211> 307
 <212> PRT
 <213> homo sapiens

<400> 9
 Met Asn His Ser Val Val Thr Glu Phe Ile Ile Leu Gly Leu Thr Lys
 1 5 10 15
 Lys Pro Glu Leu Gln Gly Ile Ile Phe Leu Phe Phe Leu Ile Val Tyr
 20 25 30
 Leu Val Ala Phe Leu Gly Asn Met Leu Ile Ile Ile Ala Lys Ile Tyr
 35 40 45
 Ser Asn Thr Leu His Thr Pro Met Tyr Val Phe Leu Leu Thr Leu Ala
 50 55 60
 Val Val Asp Ile Ile Cys Thr Thr Ser Ile Ile Pro Lys Met Leu Gly
 65 70 75 80
 Thr Met Leu Thr Ser Glu Asn Thr Ile Ser Tyr Ala Gly Cys Met Ser
 85 90 95
 Gln Leu Phe Leu Phe Thr Trp Ser Leu Gly Ala Glu Met Val Leu Phe
 100 105 110
 Thr Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Leu His
 115 120 125
 Tyr Ser Thr Ile Met Asn His His Met Cys Val Ala Leu Leu Ser Met
 130 135 140
 Val Met Ala Ile Ala Val Thr Asn Ser Trp Val His Thr Ala Leu Ile

145 150 155 160
 Met Arg Leu Thr Phe Cys Gly Pro Asn Thr Ile Asp His Phe Phe Cys
 165 170 175
 Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Pro Val Arg Ile Asn
 180 185 190
 Glu Val Met Val Tyr Val Ala Asp Ile Thr Leu Ala Ile Gly Asp Phe
 195 200 205
 Ile Leu Thr Cys Ile Ser Tyr Gly Phe Ile Ile Val Ala Ile Leu Arg
 210 215 220
 Ile Arg Thr Val Glu Gly Lys Arg Lys Ala Phe Ser Thr Cys Ser Ser
 225 230 235 240
 His Leu Thr Val Val Thr Leu Tyr Tyr Ser Pro Val Ile Tyr Thr Tyr
 245 250 255
 Ile Arg Pro Ala Ser Ser Tyr Thr Phe Glu Arg Asp Lys Val Val Ala
 260 265 270
 Ala Leu Tyr Thr Leu Val Thr Pro Thr Leu Asn Pro Met Val Tyr Ser
 275 280 285
 Phe Gln Asn Arg Glu Met Gln Ala Gly Ile Arg Lys Val Phe Ala Phe
 290 295 300
 Leu Lys His
 305

<210> 10
 <211> 2000
 <212> DNA
 <213> homo sapiens

<400> 10
 atttttcatc tgaaatatcc tcaactataat tagccctgtc agcttggtatt atttcaagta 60
 tctttgtctg tgtatatctc aaggacacct aaatgtacca tgcaattaac taaattattg 120
 aggtatgtaa taatttgtat tacagctcca ttggatatat atgcatatcc agaatatata 180
 catatgtgtg tgtatatata tatatatgtg tgtgtgtatt tagacaagtt ttaagtga 240
 atgatatcaa aatatttgaa ggcattttga aaatatTTTT cttctcaacc actggcttca 300
 gtttgagtca tcaatggagg aacatacatc agagaatggg attagtctgg aaaacagagt 360
 atattgcctg gaatacagaa ctccatcaaa tgggaattcc tgctgcaaag ttgtgtccaa 420
 tcaagaatta agtccctaag tacacacact cctcatgtta tctcctaaca acacagggat 480
 tctttccatt ttcagttggt tattctgtgc aattactgcc attcaatcac ccaagcagga 540
 tgaatcacag cgttgtaact gagttcatta ttctgggacct caccaaaaag cctgaactcc 600
 agggaattat ctctctcttt tttctcattg tctatcttgt ggcttttctc ggcaacatgc 660
 tcatcatcat tgccaaaatc tatagcaaca ccttgcatat gcccatgtat gttttccttc 720
 tgacactggc tgttgtggac atcatctgca caacaagcat cataccgaag atgctgggga 780
 ccatgctaac atcagaaaat accatttcat atgcaggctg catgtcccag ctcttcttgt 840
 tcacatggtc tctgggagct gagatgggtc tcttcaccac catggcctat gaccgctatg 900
 tggccatttg tttccctctt cattacagta ctattatgaa ccaccatatg tgtgtagcct 960
 tgctcagcat ggtcatggct attgcagtca ccaattcctg ggtgcacaca gctcttatca 1020
 tgaggttgac tttctgtggg ccaaacacca ttgaccactt cttctgtgag ataccccat 1080
 tgctggcttt gtctgttagc cctgtaagaa tcaatgaggt gatgggtgtat gttgctgata 1140
 ttacctggc cataggggac tttattctta cctgcatctc ctatggtttt atcattgttg 1200
 ctattctccg tatccgcaca gtagaaggca agaggaaggc cttctcaaca tgctcatctc 1260
 atctcacagt ggtgacctt tactattctc ctgtaatcta cacctatatc cgccctgctt 1320
 ccagctatac atttgaaaga gacaagggtg tagctgcact ctatactctt gtgactccca 1380
 cattaacccc gatggtgtac agcttccaga atagggagat gcaggcagga attaggaagg 1440
 tgtttgcatt tctgaaacac tagtagtttc aacatgcaac atcacttctg tactccagaa 1500
 ccatcttcta gagcatctca gattttactg gtttttcata cttacctcca ctccaatttt 1560
 cccttccctc ttattcctgc cttcttctta gcagttctcat tgtctccaaa attctgtact 1620

ctttatgtga agaattattca taaagcaata tgcacaatac cctcacataa atatatgtca 1680
 taatatatat tccaacattt tccaaaaata tgtacataac ttcgaatact tatatatgca 1740
 tatacacaaa tattttaccta tatgtgcatg tgcacatcat acatgcaa atcacaaaac 1800
 attttgtgta ttttgtgcca tttatgtgtt ggtatgtgaa tgtgagctgg agagaagtag 1860
 tgtgtgtgat aaattttccc ttgcttaata ggctgggttc attcacttac agcattgtga 1920
 taatgaggta tctactctgg ggttgaacct cattacgtta tttagatttc attggagaaa 1980
 aatcgtgctc tactgaataa 2000

<210> 11
 <211> 882
 <212> DNA
 <213> homo sapiens

<400> 11
 atgggatttt cgaattcctg ggatattcag attgtacatg ctgctctatt cttcctagtt 60
 tacctggcag ctgtcatagg aaatctccta atcatcatac ttaccactct ggatgttcac 120
 ctccaaaccc caatgtattt ctttttgaga aacttgtctt tcttagattt ttgttacatc 180
 tctgtcaciaa ttccaaaatc tattgttagt tcttgactc atgatacttc catttctttc 240
 tttgggtgtg ctctgcaagc cttctttttc atggacttgg caactacgga ggtagccatc 300
 cttacagtga tgtcctatga ccgctatatg gccatctgcc ggccctttaca ttatgagggtc 360
 atcataaacc aagggtgtctg tctgaggatg atggccatgt cgtgggtcag tgggggtgatc 420
 tgtggattca tgcattgtat agcaacattc tcattaccat tctgtgggag caatagaata 480
 cgtcaatttt tctgtaatat tccacagctc ctaagcctct tagaccccaa agtaattacc 540
 attgagattg gactcatggt ttttgggtaca agtcttctga taatctcctt tgttgtaatt 600
 actctctcct acatgtacat ttttctgtgc atcatgagga ttccttctaa ggagggtaga 660
 tcaaaaacat tttctacctg cattccacat cttgtggttg taacactctt tatgatatct 720
 ggcagcattg cctatgtgaa gccaaattca aattctcccc ccgttctgga tgttttctctg 780
 tctgcgttct acacagtcgt gccccgacc ctgaaccccg tcatctatag tctgaggaat 840
 agggacatga aggcagccct gagaaggcag tgtggtccct ga 882

<210> 12
 <211> 293
 <212> PRT
 <213> homo sapiens

<400> 12
 Met Gly Phe Ser Asn Ser Trp Asp Ile Gln Ile Val His Ala Ala Leu
 1 5 10 15
 Phe Phe Leu Val Tyr Leu Ala Ala Val Ile Gly Asn Leu Leu Ile Ile
 20 25 30
 Ile Leu Thr Thr Leu Asp Val His Leu Gln Thr Pro Met Tyr Phe Phe
 35 40 45
 Leu Arg Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ile Ser Val Thr Ile
 50 55 60
 Pro Lys Ser Ile Val Ser Ser Leu Thr His Asp Thr Ser Ile Ser Phe
 65 70 75 80
 Phe Gly Cys Ala Leu Gln Ala Phe Phe Phe Met Asp Leu Ala Thr Thr
 85 90 95
 Glu Val Ala Ile Leu Thr Val Met Ser Tyr Asp Arg Tyr Met Ala Ile
 100 105 110
 Cys Arg Pro Leu His Tyr Glu Val Ile Ile Asn Gln Gly Val Cys Leu
 115 120 125
 Arg Met Met Ala Met Ser Trp Leu Ser Gly Val Ile Cys Gly Phe Met
 130 135 140
 His Val Ile Ala Thr Phe Ser Leu Pro Phe Cys Gly Arg Asn Arg Ile
 145 150 155 160

Arg Gln Phe Phe Cys Asn Ile Pro Gln Leu Leu Ser Leu Leu Asp Pro
 165 170 175
 Lys Val Ile Thr Ile Glu Ile Gly Val Met Val Phe Gly Thr Ser Leu
 180 185 190
 Val Ile Ile Ser Phe Val Val Ile Thr Leu Ser Tyr Met Tyr Ile Phe
 195 200 205
 Ser Val Ile Met Arg Ile Pro Ser Lys Glu Gly Arg Ser Lys Thr Phe
 210 215 220
 Ser Thr Cys Ile Pro His Leu Val Val Val Thr Leu Phe Met Ile Ser
 225 230 235 240
 Gly Ser Ile Ala Tyr Val Lys Pro Ile Ser Asn Ser Pro Pro Val Leu
 245 250 255
 Asp Val Phe Leu Ser Ala Phe Tyr Thr Val Val Pro Pro Thr Leu Asn
 260 265 270
 Pro Val Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Ala Ala Leu Arg
 275 280 285
 Arg Gln Cys Gly Pro
 290

<210> 13
 <211> 1200
 <212> DNA
 <213> homo sapiens

<400> 13
 attctgtgta attgagattt aggggtagaa cgatagtatc catgctgcat atgagtaacc 60
 ttataattaa ttatcacaaa ttgaaatata actgggggta gccatatttg atatttctat 120
 aatccatttt ttttctctct ttaggaagaa atggaacgac cacaagtgat tttaacacaaa 180
 ctgaagttgc tgaatttttc ctcatgggat tttcgaattc ctgggatatt cagattgtac 240
 atgctgctct attcttccta gtttacctgg cagctgtcat aggaaatctc ctaatcatca 300
 tacttaccac tctggatgtt cacctccaaa cccaatgta tttctttttg agaaacttgt 360
 ctttcttaga tttttgttac atctctgtca caattccaaa atctattgtt agttccttga 420
 ctcatgatac ttccatttct ttctttgggt gtgctctgca agccttcttt ttcattggact 480
 tggcaactac ggaggtagcc atccttacag tgatgtccta tgaccgctat atggccatct 540
 gccggccttt acattatgag gtcatacata accaagggtg ctgtctgagg atgatggcca 600
 tgtcgtggct cagtgggggtg atctgtggat tcatgcatgt gatagcaaca ttctcattac 660
 cattctgtgg gcgcaataga atacgtcaat ttttctgtaa tattccacag ctccaaagcc 720
 tcttagaccc caaagtaatt accattgaga ttggagtcac ggttttttgg acaagtcttg 780
 tgataatctc ctttgttgta attactctct cctacatgta ctttttttct gtcattcatga 840
 ggattccttc taaggagggt agatcaaaaa cattttctac ctgcattcca catcttgttg 900
 ttgtaacact ctttatgata tctggcagca ttgcctatgt gaagccaatt tcaaatcttc 960
 cccccgttct ggatgttttc ctgtctgcgt tctacacagt cgtgcccccg accctgaacc 1020
 ccgtcatcta tagtctgagg aatagggaca tgaaggcagc cctgagaagg cagtgtggtc 1080
 cctgagaagg cagtgtggta tgctagatga agaatttgat tacggaccag actcttgaac 1140
 tcttgcctca atcaggcaat ttgtaaactc tctgggttta tattttcaat tgattgctga 1200

<210> 14
 <211> 1074
 <212> DNA
 <213> homo sapiens

<400> 14
 atgaataaca ctattgtatt tgtcataaaa atacaaatag aaaaaagtga cttgaaatat 60
 agagccattt cattgcaaga aatctcaaag atttcccttc ttttctgggt ccttctcttg 120

gtcattttcta gactttttact agccatgaca ctaggaaaca gcactgaagt cactgaattc 180
tatctttctgg gatttgggtgc ccagcatgag ttttgggtgta tcctcttcat tgtattcctt 240
ctcatctatg tgacctccat aatgggtaat agtggaataa tcttactcat caacacagat 300
tccagatttc aaacactcac gtactttttt ctacaacatt tggttttgt tgatatctgt 360
tacatttctg ctatcactcc caagatgctc caaagcttca cagaagaaaa gaatttgata 420
ttatttcagg gctgtgtgat acaattctta gtttatgcaa catttgcaac cagtgtactgt 480
tatctcctgg ctatgatggc agtggatcct tatgttgcca tctgtaagcc ccttcaactat 540
actgtaatca tgtcccgaac agtctgcac cgtttggttag ctggttcata catcatgggc 600
tcaataaatg cctctgtaca aacaggtttt acatgttcac tgtccttctg caagtccaat 660
agcatcaatc actttttctg tgatgttccc cctattcttg ctctttcatg ctccaatgtt 720
gacatcaaca tcatgtact tgttgtcttt gtgggatcta acttgatatt cactgggttg 780
gtcgtcatct tttctacat ctacatcatg gccaccatcc tgaaaatgtc ttctagtgc 840
ggaaggaaaa aatccttctc aacatgtgct tcccacctga ccgcagtcac cattttctat 900
gggacactct cttacatgta ttgacagtct cattctaata attcccagga aaatatgaaa 960
gtggccttta tattttatgg cacagttatt cccatgttaa atcctttaat ctatagcttg 1020
agaaataagg aagtaaaaga agctttaaaa gtgataggga aaaagttatt ttaa 1074

<210> 15
<211> 357
<212> PRT
<213> homo sapiens

<400> 15
Met Asn Asn Thr Ile Val Phe Val Ile Lys Ile Gln Ile Glu Lys Ser
1 5 10 15
Asp Leu Lys Tyr Arg Ala Ile Ser Leu Gln Glu Ile Ser Lys Ile Ser
20 25 30
Leu Leu Phe Trp Val Leu Leu Leu Val Ile Ser Arg Leu Leu Leu Ala
35 40 45
Met Thr Leu Gly Asn Ser Thr Glu Val Thr Glu Phe Tyr Leu Leu Gly
50 55 60
Phe Gly Ala Gln His Glu Phe Trp Cys Ile Leu Phe Ile Val Phe Leu
65 70 75 80
Leu Ile Tyr Val Thr Ser Ile Met Gly Asn Ser Gly Ile Ile Leu Leu
85 90 95
Ile Asn Thr Asp Ser Arg Phe Gln Thr Leu Thr Tyr Phe Phe Leu Gln
100 105 110
His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
115 120 125
Met Leu Gln Ser Phe Thr Glu Lys Asn Leu Ile Leu Phe Gln Gly
130 135 140
Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
145 150 155 160
Tyr Leu Leu Ala Met Met Ala Val Asp Pro Tyr Val Ala Ile Cys Lys
165 170 175
Pro Leu His Tyr Thr Val Ile Met Ser Arg Thr Val Cys Ile Arg Leu
180 185 190
Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val Gln Thr
195 200 205
Gly Phe Thr Cys Ser Leu Ser Phe Cys Lys Ser Asn Ser Ile Asn His
210 215 220
Phe Phe Cys Asp Val Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Val
225 230 235 240
Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Ser Asn Leu Ile
245 250 255
Phe Thr Gly Leu Val Val Ile Phe Ser Tyr Ile Tyr Ile Met Ala Thr

Ile	Leu	Lys	Met	Ser	Ser	Ser	Ala	Gly	Arg	Lys	Lys	Ser	Phe	Ser	Thr
		275					280					285			
Cys	Ala	Ser	His	Leu	Thr	Ala	Val	Thr	Ile	Phe	Tyr	Gly	Thr	Leu	Ser
	290					295					300				
Tyr	Met	Tyr	Leu	Gln	Ser	His	Ser	Asn	Asn	Ser	Gln	Glu	Asn	Met	Lys
305				310					315						320
Val	Ala	Phe	Ile	Phe	Tyr	Gly	Thr	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu
			325					330					335		
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Lys	Glu	Ala	Leu	Lys	Val	Ile
		340						345					350		
Gly	Lys	Lys	Leu	Phe											
		355													

<210> 16
 <211> 930
 <212> DNA
 <213> homo sapiens

<400> 16
 atgacactag gaaacagcac tgaagtcact gaattctatc ttctgggatt tgggtgcccag 60
 catgagtttt ggtgtatcct cttcattgta ttctttctca tctatgtgac ctccataatg 120
 ggtaaatagt gaataatcct actcatcaac acagattcca gatttcaaac actcacgtac 180
 ttttttctac aacatttggc ttttgttgat atctgttaca cttctgctat cactcccaag 240
 atgctccaaa gcttcacaga agaaaagaat ttgatattat ttcagggctg tgtgatacaa 300
 ttcttagttt atgcaacatt tgcaaccagt gactgttatc tcctggctat gatggcagtg 360
 gatccttatg ttgccatctg taagcccctt cactatactg taatcatgtc ccgaacagtc 420
 tgcatacgtt tggtagctgg ttcatatc atgggctcaa taaatgcctc tgtacaaaca 480
 gggtttacat gttcactgtc cttctgcaag tccaatagca tcaatcactt tttctgtgat 540
 gttcccccta ttcttgtctt ttcatgtctc aatgttgaca tcaacatcat gctacttgtt 600
 gtctttgtgg gatctaactt gatattcact ggggttggtc tcactctttc ctacatctac 660
 atcatggcca ccatactgaa aatgtcttct agtgcaggaa ggaaaaaatc cttctcaaca 720
 tgtgcttccc acctgaccgc agtcaccatt ttctatggga cactctctta catgtatttg 780
 cagtctcatt ctaataattc ccaggaaaat atgaaagtgg cctttatatt ttatggcaca 840
 gttattccca tgttaaatcc tttaatctat agcttgagaa ataaggaagt aaaagaagct 900
 ttaaaagtga tagggaaaaa gttattttta 930

<210> 17
 <211> 309
 <212> PRT
 <213> homo sapiens

<400> 17
 Met Thr Leu Gly Asn Ser Thr Glu Val Thr Glu Phe Tyr Leu Leu Gly
 1 5 10 15
 Phe Gly Ala Gln His Glu Phe Trp Cys Ile Leu Phe Ile Val Phe Leu
 20 25 30
 Leu Ile Tyr Val Thr Ser Ile Met Gly Asn Ser Gly Ile Ile Leu Leu
 35 40 45
 Ile Asn Thr Asp Ser Arg Phe Gln Thr Leu Thr Tyr Phe Phe Leu Gln
 50 55 60
 His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
 65 70 75 80
 Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Ile Leu Phe Gln Gly
 85 90 95

0975308-101101

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 100 105 110
 Tyr Leu Leu Ala Met Met Ala Val Asp Pro Tyr Val Ala Ile Cys Lys
 115 120 125
 Pro Leu His Tyr Thr Val Ile Met Ser Arg Thr Val Cys Ile Arg Leu
 130 135 140
 Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val Gln Thr
 145 150 155 160
 Gly Phe Thr Cys Ser Leu Ser Phe Cys Lys Ser Asn Ser Ile Asn His
 165 170 175
 Phe Phe Cys Asp Val Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Val
 180 185 190
 Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Ser Asn Leu Ile
 195 200 205
 Phe Thr Gly Leu Val Val Ile Phe Ser Tyr Ile Tyr Ile Met Ala Thr
 210 215 220
 Ile Leu Lys Met Ser Ser Ser Ala Gly Arg Lys Lys Ser Phe Ser Thr
 225 230 235 240
 Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
 245 250 255
 Tyr Met Tyr Leu Gln Ser His Ser Asn Asn Ser Gln Glu Asn Met Lys
 260 265 270
 Val Ala Phe Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
 275 280 285
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Lys Val Ile
 290 295 300
 Gly Lys Lys Leu Phe
 305

<210> 18
 <211> 2600
 <212> DNA
 <213> homo sapiens

<400> 18
 attctacctt cttctaataa aggtttatcc caataaaagg aacactcctt gaaagaactg 60
 tatttctttc attttacagt aaatttacct taggaagaaa cttatacgaa cttactatac 120
 ttcagtcctt gttagatggt aaaatgaaga gaattgtttc ttgttcctca actacagaat 180
 tgaaaaaaaa aagtaataga aaatgtaagg ctattttctca ggcattccatt acataatgag 240
 gttatttttg ttgtaaagaa tatcacatag atgagagatg cagtctaggg atactaatac 300
 aaagacacgt tgaagccttc aaacatatgt gaaccatgaa cacatttcaa aaaaattctc 360
 tctaattcta ttaatttcca aagctggaac caaaattaaa atggtaagtg gctgtgaaca 420
 attataagtt tctaaaaaag taaaaaatta catttttagca ttactttaaa aatatggata 480
 gctgtttaat acagaggaaa attgtcaatc tatgtttcta agaactatac acattaggag 540
 ttaggatact tctaagacaa tctccttcga ttttgaagat gaatccattt catcttacat 600
 caagtaaatac actctttact tgatgattat aaatacattt cttaaatttg aaaatgaata 660
 acactattgt atttgtcata aaaatacaaa tagaaaaaag tgacttgaaa tatagagcca 720
 tttcattgca agaaatctca aagattttccc ttcttttctg ggtccttctc ttgggtcattt 780
 ctagactttt actagccatg acactaggaa acagcactga agtcactgaa ttctatcttc 840
 tgggatttgg tgcccagcat gagttttggt gtatcctctt cattgtattc cttctcatct 900
 atgtgacctc cataatgggt aatagtggaa taatcttact catcaacaca gattccagat 960
 ttcaaacact cagctacttt tttctacaac atttggcttt tgttgatata tggtacactt 1020
 ctgctatcac tccaagatg ctccaaagct tcacagaaga aaagaatttg atattatttc 1080
 agggctgtgt gatacaattc ttagtttatg caacatttgc aaccagtgcac tgttatctcc 1140
 tggctatgat ggcagtggat ccttatgttg ccatctgtaa gccccttcac tatactgtaa 1200

0052660-101

Gln	Val	Asp	Pro	Ala	Leu	Glu	Leu	Phe	Leu	Phe	Gly	Phe	Phe	Leu	Leu
			20					25					30		
Phe	Tyr	Ser	Leu	Thr	Leu	Met	Gly	Asn	Gly	Ile	Ile	Leu	Gly	Leu	Ile
		35					40					45			
Tyr	Leu	Asp	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Val	Phe	Leu	Ser	His
	50					55					60				
Leu	Ala	Ile	Val	Asp	Met	Ser	Tyr	Ala	Ser	Ser	Thr	Val	Pro	Lys	Met
65					70					75					80
Leu	Ala	Asn	Leu	Val	Met	His	Lys	Lys	Val	Ile	Ser	Phe	Ala	Pro	Cys
				85					90					95	
Ile	Leu	Gln	Thr	Phe	Leu	Tyr	Leu	Ala	Phe	Ala	Ile	Thr	Glu	Cys	Leu
			100					105					110		
Ile	Leu	Val	Met	Met	Cys	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	Pro
		115					120					125			
Leu	Gln	Tyr	Thr	Leu	Ile	Met	Asn	Trp	Arg	Val	Cys	Thr	Val	Leu	Ala
	130					135					140				
Ser	Thr	Cys	Trp	Ile	Phe	Ser	Phe	Leu	Leu	Ala	Leu	Val	His	Ile	Thr
145					150					155					160
Leu	Ile	Leu	Arg	Leu	Pro	Phe	Cys	Gly	Pro	Gln	Lys	Ile	Asn	His	Phe
				165				170						175	
Phe	Cys	Gln	Ile	Met	Ser	Val	Phe	Lys	Leu	Ala	Cys	Ala	Asp	Thr	Arg
		180						185					190		
Leu	Asn	Gln	Val	Val	Leu	Phe	Ala	Gly	Ser	Ala	Phe	Ile	Leu	Val	Gly
	195						200					205			
Pro	Leu	Cys	Leu	Val	Leu	Val	Ser	Tyr	Leu	His	Ile	Leu	Val	Ala	Ile
	210					215					220				
Leu	Arg	Ile	Gln	Ser	Gly	Glu	Gly	Arg	Arg	Lys	Ala	Phe	Ser	Thr	Cys
225					230					235					240
Ser	Ser	His	Leu	Cys	Val	Val	Gly	Leu	Phe	Phe	Gly	Ser	Ala	Ile	Val
				245					250					255	
Met	Tyr	Met	Ala	Pro	Lys	Ser	Ser	His	Ser	Gln	Glu	Arg	Arg	Lys	Ile
		260						265					270		
Leu	Ser	Leu	Phe	Tyr	Ser	Leu	Phe	Asn	Pro	Ile	Leu	Asn	Pro	Leu	Ile
		275					280					285			
Tyr	Ser	Leu	Arg	Asn	Ala	Glu	Val	Lys	Gly	Ala	Leu	Lys	Arg	Val	Leu
	290					295					300				
Trp	Lys	Gln	Arg	Ser	Met										
305					310										